DOCUMENT RESUME

ED 148 020 EA 010 223

AUTHOR Whetten, David A.; Leung, Thomas K.
TITLE The Instrumental Value of Interorganizational Relations: Antecedents and Consequences of Linkage Formation. Faculty Working Paper No. 454.
INSTITUTION Illinois Univ., Urbana. Coll. of Commerce and Business Administration.
PUB DATE 7 Dec 77
NOTE 40p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Decision Making; *Interagency Cooperation; Interagency Coordination; Interagency Planning; *Organization; *Organizational Communication; *Organizational Effectiveness; *Organizational Theories; Resource Allocations; Social Science Research; Social Services

ABSTRACT

As part of a larger investigation of the manpower training system, information on 67 manpower agencies located in several New York communities (excluding New York City) was collected during the summer of 1973. This study examines the determinants of agencies' attempts to establish interorganizational linkages that are instrumental to the achievement of their goals. It was found that a smaller agency budget and the need to provide a wide range of services facilitate the establishment of those linkages that are of high instrumental value to the agency. To a lesser extent, the presence of an appropriate decision-making mechanism within the agency and the ability to freely establish and maintain relations with other organizations are also found to be contributing factors. In addition, the study also shows that agencies that maintain linkages of low instumental value with many other organizations feel that they are being dominated by their environment. (Author/MLF)

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THE INSTRUMENTAL VALUE OF INTERORGANIZATIONAL RELATIONS: ANTECEDENTS AND CONSEQUENCES OF LINKAGE FORMATION

David A. Whetten and Thomas K. Leung

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THE INSTRUMENTAL VALUE OF INTERORGANIZATIONAL RELATIONS: ANTECEDENTS AND CONSEQUENCES OF LINKAGE FORMATION

DAVID A. WHETTEN THOMAS K. LEUNG

Organizational Behavior Group
College of Commerce and Business Administration
University of Illinois at Urbana-Champaign

November, 1977

Comments received on an earlier draft from Howard Aldrich, Michael Moch and Gerald Salancik have been most helpful.

Draft: Comments welcome, do not cite without permission.

ABSTRACT

This study focuses on the utility of interorganizational linkages for social service agencies. Specifically, it examines the determinants of agencies' attempts to establish interorganizational linkages which are intrumental to the achievement of their goals. It was found that a smaller agency budget and the need to provide a wide range of services facilitate the establishment of those linkages that are of high intrumental value to the agency. To a lesser extent, the presence of an appropriate decision making mechanism within the agency and the ability to freely establish and maintain relations with other organizations are also found to be contributing factors.

In addition, the study also shows that agencies which maintain linkages of low intrumental value with many other organizations feel that they are being dominated by their environment. This finding highlights the importance of examining the organizational and contextual condtions affecting an organization's ability to interact with only those organizations perceived to be instrumental to its success.

The fundamental purpose of this study is to increase our understanding of the interorganizational linkage formation process. The commonly held view is that interorganizational relations are instituted because they are perceived by the focal organization as being instrumental for controlling its environment. However, a review of the literature indicates that very little research has attempted to test this basic assumption. Indeed, as noted in Whetten and Aldrich (1977), past research has by and large not been concerned with identifying the conditions under which it is appropriate to follow the prevailing theories' assumptions regarding the process of establishing interorganizational relations. Specifically, we are concerned that the resource control model appears to be based on highly restrictive assumptions regarding the autonomy of, and decision making criteria used by, administrators in forming linkages. Consequently, it seems important to investigate the organizational and environmental conditions under which this framework is likely to accurately model the linkage formation process. To do this we will test hypotheses regarding conditions under which public agencies are likely to establish linkages with various groups of community organizations primarily on the basis of their perceived utility in aiding the focal organization to fulfill its mission. Following this we will investigate whether interorganizational linkages, regardless of the original purpose for their establishment, appear to generate a perception that the organization is able to control its environment. In this manner the paper will be examining the factors which affect whether interorganizational relations will be established for their instrumental value and whether linkages once established are perceived as having such a value.

Background

The literature on interorganizational relations suggests that linkages are established by an organization based on their perceived instrumental value for enhancing organizational performance. Current theories in this area posit that the principal value of interorganizational linkages is increased control over environmental contingencies--the most notable of which being the availability of resources. Thompson (1967) proposed that under norms of rationality, organizations will attempt to reduce their dependence on resources controlled by other organizations by negotiating a long-term contract; coopting the controlling organization; establishing a joint venture with the controlling organization involving an exchange of resources between both parties; or by forming an agreement at better terms with a third party. These strategies are consistent with March and Simon's (1958) proposition that organizations avoid having to anticipate environmental action by arranging negotiated environments.

This paradigm is clearly visible in the work that has been done on interagency coordination. As outlined by Turk, "The need for interorganizational relations is probably related to awareness of organizations of interdependence with other organizations and results in attempts at coordination." (1973, p. 40). The role of organizational interdependence as a stimulus for coordination has been repeatedly noted in the literature (cf., Hage and Aiken, 1967; Litwak and Rothman, 1970; Lehman, 1975; Reed, 1969; Pfeffer and Nowak, 1976; and Whetten, 1977a). Although there is some disagreement regarding the direction of causation between interdependence and the establishment of joint programs (Pfeffer and Nowak, 1976, p. 400), clearly coordination is viewed as an environment-controlling

strategy. This joint effort to control the participating organizations' environments is accomplished by increasing the predictability of resource flow, maintaining a clear domain of high social importance and extending the application and defense of the agency's paradigm (Benson, 1975).

An extreme form of the basic environment-controlling paradigm is represented by the work of Yuchtman and Seashore (1967). They proposed that resource control should serve as the principal criterion for measuring organizational effectiveness. Following this model an organization is effective to the extent that it is capable of dominating other organizations in its task environment.

In reviewing the early development of the environmental control model it is clear that it was originally conceptualized at the organization-environment level of analysis rather than the interorganizational level. The difference being that the former perspective leaves the mechanisms whereby an organization controls its environment specified whereas the latter focuses explicitly on formal linkages between organizations. It is interesting to note, however, that research on interorganizational relations at the dyadic and organizational set level has typically utilized an environment-controlling framework. For instance, Aldrich (1976) and Benson (1973, 1975) proposed that organizational administrators establish a network of relations for the purpose of maintaining an orderly and reliable flow of resources. Effective control of the environment is held to be a function of the centrality of an organization's location within a network of relations and its linkages with organizations outside the immediate network (e.g., support from a national federation) (Benson, 1975; Litwak and Hylton, 1962; Rogers, 1974).

As we have previously noted (Whetten and Aldrich, 1977), this line of reasoning assumes that the decision to establish interorganizational linkages is the outcome of a very deliberate and thoughtful process. This is exemplified by a scenario in which an organizational administrator observes a decrease in organizational performance and concludes from his analysis of the problem that the organization needs to obtain resource Y which is supplied by organizations A and B. He then proceeds to evaluate these alternative suppliers on the basis of their price, delivery time, stability of supply, etc., and on the basis of this assessment he initiates an agreement with the organization proposing the most favorable terms. It is important to note that this view of decision making contains two key assumptions: (1) that the administrator has considerable freedom to choose between alternatives; and (2) that he does so on the basis of what are generally considered to be rational/economic considerations.

While the rational decision making model has been strongly criticized (cf., March and Simon, 1958; Weick, 1969; March and Olson, 1976), our purpose presently is not to argue that an administrator does not attempt to base his decisions to establish and maintain linkages on his perception of their contribution to organizational effectiveness, rather our objective is to draw attention to the multitude of factors which interfere with this type of deliberate, "rational" decision making process and consequently suggest limitations on the unbridled utilization of the resource control model in studies of interorganizational relations, especially in the public sector.

We will draw attention to two sets of constraints on utilizing this model of the linkage formation process, namely, environmental conditions

which limit the autonomy of public agency administrators to freely choose between organizations in establishing linkages and organizational conditions which may restrict the use of rational criteria in deciding between alternative linkage possibilities. One of the principal environmental constraints on the autonomy of public agency administrators is the fact that some linkages are essentially forced on the participating organizations by third parties. This type of relationship can be the result of a legal directive, or a formal agreement between the heads of the respective federal or state systems to which local agencies belong (Whetten, 1977b; Hall et al., 1974; Aldrich, 1976a). It may also be stimulated by pressures from organized client groups or leaders of local coordination councils as they push to improve the quality of the local social service delivery system. Additional programmatic-related constraints on an administrator's discretion to initiate interorganizational relations include the size of his budget, the type of services the agency is mandated to provide, the number of staff allowed and the number of organizations in the community (Whetten and Aldrich, 1977).

Regardless of the administrator's decision making autonomy we expect that there are a number of internal organizational factors which may obstruct his inclination to utilize highly "rational" criteria in choosing between linkage alternatives. For instance, the establishment of linkages which are less than optimal may result from staff biases regarding the legitimacy and status of other agencies, organizational traditions and precedents regarding the appropriate means for obtaining referrals and placing clients, and power struggles within the organization regarding the future image of the organization as reflected in its network of clients.

The fundamental purpose of this study, then, is to explore the obstacles faced by administrators attempting to maximize the benefits and minimize the costs resulting from interorganizational relations. We will do this by testing three hypotheses regarding organizational and contextual factors which impinge on the linkage establishment process. We will also examine those cases in which the number of linkages which an agency has established with a group of organizations (e.g., hospitals and health care clinics) is not consistent with the administrator's perceived instrumental value of that type of organization. Through our investigation of these discrepancies we hope to gain additional insights into the conditions under which the resource control model is appropriate for describing the linkage formation process.

Hypotheses

We expect that the degree to which an agency is interacting primarily with organizations of high instrumental value will be a function of three factors. These are the extent to which the organization has: (1) a strong need to be selective in choosing partners for their interorganizational relations; (2) the opportunity to freely establish and discontinue relations with other organizations; and (3) the appropriate internal decision making mechanism.

Public agencies which operate federally or state sponsored social service programs are highly constrained by the hierarchial system governing their programs. The parent institution serves as the principal source of funding and as such it exercises considerable control over the utilization of these funds by local agency directors. Specifically, they

dictate the types of staff position that can be funded and the types of services they can dispense to clients. Therefore, since social service agencies in a community operate within several different hierarchial systems they are likely to differ in terms of the level of funding and the range of services they have been authorized to offer. In Whetten and Aldrich (1977) it has been demonstrated that a large financial resource base (budget) is conducive to establishing a highly diversified organization set. This finding is consistent with Litwak and Rothman's argument that, "organizations with 'extra resources' are often best able to link with others" (1970, p. 156). In labor intensive people processing organizations (Hazenfeld, 1972) large budgets are converted into a large staff which provides the organization with an increased capacity to establish and maintain linkages. Paradoxically, it has also been argued that poor ties to resource bases outside the community will motivate an organization to establish linkages with other local organizations as a means of enlarging its resource base (Benson, 1975; Levine and White, 1961; Hage and Aiken, 1967). Since it takes resources (e.g., staff time), to establish and maintain linkages agencies with small budgets will have a high need for linkages but a small "stake" to invest in establishing them. We expect that organizations in this situation will be highly motivated to examine the instrumental value of a linkage before they decide to initiate it.

We expect that the need for being selective in establishing linkages is also stimulated by a wide scope of services. We have shown (Whetten and Aldrich, 1977) that when an organization is providing a wide range of supportive services to its clients, in addition to basic services such

as training, employment placement and counseling, the organization interacts with a larger and more diverse set of organizations. For instance, if an agency is providing medical examinations as an auxilliary service, it will need to establish linkages with local health organizations. This has important implication for how carefully organizations select interacting partners. We expect that establishing linkages with 50 organizations distributed evenly across 9 different categories is a more difficult task than if they are all in four or five categories. This is due to the fact that it is generally more difficult for an agency to establish a linkage with the first hospital than the second or third. The first linkage provides knowledge about hospital programs and administrative policies, as well as acquaintances which can be used as references in the future. Consequently, we expect that given a fixed resource base (in terms of staff time) for interacting with other organizations, an agency offering a broad range of services to its clients would be highly constrained to interact only with those organizations which are perceived to have high instrumental value. This leads us to our first hypothesis, which is:

> Hypothesis #1: Organizations with a small budget and/or a wide range of services will be more likely to interact with other organizations which have high instrumental value.

Perceived need alone, however, is not sufficient to guarantee that all linkages will have instrumental value. It is possible that an agency may be aware of excellent training or employment opportunities in other organizations but has difficulty placing its clients in them and therefore must settle for inferior alternatives. This lack of access may be

caused by the agency's poor image in the community. Benson (1976) has stressed that public agencies must establish a strong base of legitimacy among local community leaders as a prerequisite to obtaining resources controlled by other organizations. Since it has been shown that community leaders' ratings of the effectiveness of these agencies is strongly influenced by their familiarity with the organizations' members (Whetten, 1977), it follows that if an organization announces a limited number of openings and several agencies are competing for these positions, preferential treatment will be extended along acquaintance or friendship lines. This conclusion points out the need to better understand the mechanisms whereby an agency can increase its visibility in the community.

In his original treatise on organization sets, Evan (1966) proposed that if boundary spanners have a large personal role set, then it is likely that organization would also have a large organization set. This hypothesis was borne out by Whetten and Aldrich (1977) inasmuch as we found that one of the best predictors of the number of relations an organization had established was the activity rate of the staff in local fraternal types of organizations. Following Turk's work (1973) in this area we posited that these institutions increase social intergration in the community by providing people with information regarding the interests and resources held by others.

Increased visibility and legitimacy may also result from the staff members previously holding positions in other local organizations. A request to establish an exchange coming from a former co-worker is more likely to be honored than one coming from a total stranger. This proposition is similar to Perruci and Pilisuk's (1970) finding that community

influentials hold positions in several organizations. As an extension of their work, we expect that personal influence may result not only from being linked to several organizations simultaneously, but also from sequentially holding positions in several organizations over time.

An organization set which includes many linkages that have relatively low instrumental value may result not only from the organization's inability to establish preferred linkages, but also from its failure to discontinue less than optimal relationships which have been previously established. This may be due either to the organization not having the right to discontinue the relationship, or its failure to take the initiative (which is legally theirs) to sever the relationship.

It is common for an organization to attract interactions because of its reputation or its control over scarce resources, e.g., the employment service's exclusive right to job placement. In these cases the focal organization may receive only marginal benefits from an interaction compared to the resources it expends in maintaining the linkage. A strictly rational/economic model of decision making would argue that an organization in this position would discontinue the relationship. However, this may not take place if the organization has such a large set of relationships that it is difficult to continually assess the cost/benefit ratio of each linkage. When an organization has a very large organization set relative to its number of staff, the staff would have little time to reflectively evaluate the worth of their boundary spanning activities. Under these conditions we would expect that precedent and tradition would act as powerful forces for perpetuating the status quo.

Hypothesis #2: Organizations with small organization sets and staff members who are actively involved in several voluntary associations and have previously held several positions in other organizations will be more likely to interact with organizations which have high instrumental value.

The third factor which is likely to affect whether an organization establishes linkages of high instrumental value is whether or not it has established adequate structural mechanisms for internally disseminating environmental information and for making environment-controlling decisions based on this information. Information regarding the desirability and undesirability of interacting with other organizations enters an organization by means of the various boundary spanning activities we have mentioned. If information coming into an organization regarding such things as new job openings, alternatives to existing client exchange agreements and planned changes in funding for local training programs fails to be channeled to the appropriate decision makers, then decisions to initiate or continue linkages with a less than optimal cost/benefit ratio may be made. In relatively small organizations staff meetings serve as an excellent information disseminating mechanism. In Whetten and Aldrich (1977) we found a positive correlation between organization set size and the number of staff meetings held. While we are not totally certain about the direction of causality it does appear that information regarding the organization set is being exchanged in these staff meetings.

An additional factor which we feel is likely to influence the effectiveness of the decision making process is the level of centralization in the organization. It has been shown that centralization increases both the number of joint programs engaged in (Hage and Aiken, 1967) and

the overall size of the organization set (Whetten and Aldrich, 1977). The traditional view is that authority to make decisions regarding how to control the environment through boundary spanning activities should be delegated to boundary spanners since they have the most accurate and current information about the environment. However, decentralization of authority typically also results in a loss of scope in the decision making process. While a given boundary spanner may have very current information regarding opportunities for establishing linkages with the organizations he interacts with, he is not likely to be aware of alternatives discovered by other staff members. Consequently, if each boundary spanner were empowered to commit his organization to an exchange relationship, the resulting organization set would likely contain many redundant and less than optimal linkages. We expect, therefore, that centralization of authority will result in an organization set with an overall higher quality of relationships because key decisions are based on a broad scope of information about the various resource-controlling alternatives.

Senior officials are likely to possess a broad scope of information regarding environment controlling options not only because they are presently located at the apex of the organization's communication network, but also because of their previous experience within the organization. This type of public agency tends to fill vacancies in senior positions by promoting their own personnel, consequently, top administrators tend to have the longest tenure in the organization. As a result, their knowledge of the stability and integrity of previous agreements with various organizations would aid them in choosing between current alternatives. For instance, a community organization's history of

unreliability in fulfilling commitments to the focal organization in the past might cause an administrator to veto a proposal from a less experienced staff member to initiate a joint program with the organization.

> Hypothesis [illegible]: Organizations with frequent communications via staff meetings and centralization of authority would be more likely to interact with organizations which have high instrumental value.

A summary of these hypotheses is shown in Figure 1.

At this point our focus shifts from the effect of perceived instrumental value on the establishment of interorganizational linkages to the effect of linkages on the organization's ability to control its environment. We have previously proposed that a large and diversified organization set would be beneficial to a people processing public agency because of its resource-controlling potential. A large part of the success of the agency is dependent upon their successfully placing their clients in training and employment positions in other organizations. Therefore the larger and broader their set of contacts in the community, the more degrees of freedom they would have for client placement (Jacobs, 1974). One way of testing this propostion is to ask the staff members how much control they feel the organization has over the environment. We would expect that their response should be positively correlated with the size and diversity of their organization set.

However, we feel that it is important to look beyond the effects of the objective characteristics of the organization set alone. In this paper we have stressed the fact that the resource-controlling process itself consumes resources. Consequently, if an agency is interacting with many organizations because it must, because it has failed to recognize

the inefficiencies of the current relationships, or because it is unable to gain access to more desirable alternatives, it is possible that the staff will not feel that their linkages with other organizations are very beneficial. This line of reasoning would suggest that perceived importance of the interacting organizations might serve as a mediating variable between the objective characteristics of the organization set and the staff's perception of the consequences of these interorganizational linkages. To test this we will examine those organizations which have large organization sets but which also rate the instrumental values of their interacting organizations as being low. If the staff in these organizations recognize that their linkages have a poor cost/benefit ratio then we would expect them to report that their organizations are being controlled by their environment rather than vice versa.

> Hypothesis #4: When considered by themselves, organization set size and diversity will be positively correlated with perceived control over the environment. However, we expect that this relationship will be moderated by perceived importance of the linkages, to the extent that agencies which are interacting with many unimportant organizations will report that they are being dominated by their environment.

This hypothesis is similar to Pondy's (1977) proposition that people have high social power only when they can both initiate interactions with others in the organization and buffer themselves from the initiatives of others. At the organizational level we will be examining the cases in which organizations appear to be vulnerable to initiatives to establish relationships which are not mutually beneficial.

Methods

This study is part of a larger investigation of the manpower training system in New York State (Whetten, 1974). Information on 67 manpower agencies located in several New York communities (excluding New York City) was collected during the summer of 1973. The sample consisted of Employment Service offices, Neighborhood Youth Corps, MDT Skill Training Centers and On-The-Job Training Programs. Two different survey instruments were used to collect data on variables used in this study. Information about the internal operation and structure of the agency was obtained from self-administered questionnaires completed by the professional staff and the director. Information about an agency's interactions with other organizations was obtained from the director's responses to our master list of organizations for each community. The master list contained a compilation of every known public and non-profit organization located in the agency's community. It was compiled over a two year period from community directories supplied by local governments and social service coordinating agencies. The list was validated by asking the directors of the manpower organizations and the heads of the Social Service Department and Chamber of Commerce in each community to check the list for omissions and errors several months before the study. Organizations contained on the master list were classified into nine sectors, or types, comprising the agency's task environment. A description of the nine sectors is shown in Appendix I.[1] The size of the organization set was computed by counting the number

[1]The master list excluded private and profit-making businesses because they were compiled in a much less systematic way.

of organizations checked on the master list. The concentration of the set was computed using Herfindahl's 'H' statistic (Adelman, 1969) which increases in value as the organizations in the set are concentrated in a few sectors.[2]

A rating of the perceived importance of each of the nine sectors for the successful fulfillment of the organization's mission was obtained from the agency's director. Each sector was rated on a 7-point scale. To reduce the possibility that this rating might be biased by the number of interacting organizations identified in each sector by the agency heads, they were not informed of the particular sector into which each organization on the master list has been classified. In addition, the master list and the questionnaire were not administered simultaneously. The staff's perception of the organization's control over its environment was assessed by asking the agency's director: the 7-point response scale ranging from "the environment dominates the organization" to "the organization dominates its environment." The questions measuring the instrumental value of each sector and the organization's control over its environment were actually asked of all the professional staff members. However, we decided to use only the agency director's response for the following reasons: 1. Using an analysis of variance test we found that the agency directors' responses were not significantly different from the average response of the rest of the staff. 2. This approach avoids

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[2]The formula for the H statistic is $H = \sum_{i}^{N} \left(\frac{a_i}{A}\right)^2$

the sticky problem of aggregating purely perceptual data to form an organizational score. 3. The agency director filled out the mast list for his organization and inasmuch as we had taken precautions to avoid contamination between the instruments we felt it was advantageous to use the agency director's rating of the sectors in order to hold constant the respondent's familiarity with the organization set. 4. As we have already indicated, the agency director tends to have the longest tenure in the organization, so we felt he was our most reliable informant (Seidler, 1974).

The relationship between the perceived importance of the organizations in the nine sectors of the task environment and the number of linkages with organizations in each sector was measured by computing the Pearson correlation coefficient between the two sets of nine scores for each of the focal manpower organizations. This variable is labelled INSTVALUE, for instrumental value.

Because of the nature of the particular internal organizational characteristics we were using for independent variables, e.g., the staff's participation in decision making and their activity in local voluntary organizations, we did not feel that it was wise to rely on only a single response from the agency director (Seidler, 1974). Consequently, we have included those questions in Appendix II which were asked of the entire professional staff on each manpower organization and combined into a single score.[3]

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[3]For a discussion of our aggregration procedure for these variables see Whetten and Aldrich, 1977.

Results

To begin with, the correlation between the perceived importance of a sector and the number of linkages with organizations in that sector for each organization ranged from -.07 to +.92, with a median value of .34. This range of correlations represents a remarkably high variance in the goodness of fit between the utility of an organization's linkages and the number of linkages it has established and underscores the need for a better understanding of the factors which impinge on the linkage establishment process.

To test our hypotheses regarding the factors which affect the degree to which interorganizational relations are established for their instrumental value we ran a regression of INSTVALUE on the organizational variables. The results of this analysis are shown in Table 1. Overall, they provide strong support for hypothesis #1 and moderate support for hypotheses #2 and #3. As we had predicted the relationship between the number of linkages with a set of organizations and the focal organization's perceived importance of that group is greatly influenced by the size of the organization's financial base and the breadth of services they provide. The need to establish relations with a broad range or organizations on a small budget therefore appears to be a significant determinant of a highly deliberate, "rational" decision making process.

Table 1 provides less support for our hypothesis #2 regarding an organization's opportunity to freely establish and discontinue relations. Visibility resulting from previous jobs appears to provide greater information about, and access to, the resources of other organizations than visibility resulting from membership in local voluntary organizations.

These results suggest that a person's latent role set based on past acquaintances are more salient for gaining access to other organizations than his active ties. However, since our two measures of the staff's role sets also varied in terms of job vs. non-job activities, further research in this area needs to be conducted before a definite conclusion can be reached. It does appear, however, that our results here and in Whetten and Aldrich (1976) points to definite opportunities for organizational leaders to capitalize on the personal role sets of their staff members.

As part of this hypothesis we proposed that an organization with a large set may find it difficult to continually weed out unproductive relationships. The significant beta of -.19 in Table 1 underscores the fact that a large set size has both costs and benefits. While it reduces the focal organization's dependence on a small number of organizations, it also appears to create new environment-management problems due to the fact that it is difficult to continually assess the current value of a large number of commitments. The result may be a classic problem of the means becoming an end in and of itself as the perceived value of linkages decreases but the relationships are perpetuated.

The results in Table 1 likewise provide partial support for hypothesis #3. It appears that for these organizations the number of staff meetings is not significantly related to the instrumental value of their organization set. This may be due either to the fact that staff meetings are not used in these agencies as a means of communicating information about the task environment or that this type of communication is not taking place at all. Since the number of staff meetings was shown to be an important

predictor of organization set size (Whetten and Aldrich, 1977) it may be that general organization/environment information (e.g., we need more training opening to meet an increased demand from our clients) may be exchanged in the meetings but not details about specific linkage possibilities. Further work on this topic would be fruitful for future research.

As predicted, centralization is positively related to INSTVALUE. It appears that in small social service agencies it is important for linkage formation decisions to be made by the senior staff members. Since they generally have the longest tenure in the agency, they are likely to be most familiar with past and current interorganizational relations. This knowledge base would serve as a check on the information regarding new opportunities for linkages obtained by less experienced boundary spanners.

The effect of a large and diversified organization set in the staff's perception of their ability to control the environment (Hypothesis #4) is shown in Table 2. These results indicate that a large and diverisifed (the opposite of concentration) organization set is positively associated with the staff's perception that the organization is controlling its environment. Considered by themselves, these results would suggest that irrespective of why a linkage was established the effect of the linkage is beneficial for the organization. Such a conclusion would mean that our interest in obtaining a better understanding of the context within which linkages are established is purely academic since it appears that the nature of the linkage and the characteristics of the interacting organization have no consequence on an organization's perceived ability to control its environment.

To test the validity of this conclusion we treated perceived importance as a moderator for the relationship between the number of linkages and environmental control. To do this we created a dummy variable representing the interaction between number of linkages and perceived importance of the task environment by splitting both variables at their median value and assigning weights of 0 or 1 to form the interaction terms high linkages/low importance and low linkages/high importance. If perceived importance is not acting as a mediating variable then the partial correlations[4] between these interaction terms and perceived environmental control should be similar to the +.36 correlation for number of linkages along. Table 2 shows that this clearly is not the case since the correlation for the high linkages/low importance condition is -.48. This reversal in the sign of the correlation indicates that when organizations are interacting extensively with unimportant organizations they feel powerless. This is a very significant result. It confirms hypothesis #4 and reinforces the importance of our earlier results in Table 1 since it points out dramatically the need to examine organizational and contextual conditions which affect an organization's ability to interact with only those organizations which it perceives as being instrumental to its success.

The correlation of +.36 for the other interaction term, low linkages/high importance, is somewhat troubling. We expected that agencies which were not interacting with organizations which were perceived as having high instrumental value would report the same sense of powerlessness that

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[4]Controlling for the "main effects" of number of linkages and perceived importance of the task environment.

we found in the high linkages/low importance condition. It appears, however, that just the opposite is the case. In reflecting on this anomalous result we wondered if agencies which are unable to establish linkages with a large number of highly important organizations might be able to compensate for this lack of total access by increasing the intensity of the linkages which they are able to initiate. If the relatively few linkages established with important organizations each represent a highly intense exchange relationship then the focal organization may report that it is able to control its environment, as reflected by the +.36 correlation in Table 2. To test this possibility we used an analysis of variance test to measure the relationship between the two dimensions number of linkages and perceived importance and three measures of linkage intensity which reflect the number of different client and institutional services provided by the interacting organizations. The master list of organizations survey asked each agency head to identify the number of different services provided by each interacting organization for the focal agency's referrals. These included counseling, basic education classes, medical or rehabilitative services, on the job training, job placement, diagnosis and testing, and vocational training. They were also asked to identify all institutional services they received from each interacting organization. These included funding, physical facilities for offices or training, and assistance in program planning and development.

The third measure of intensity was a composite of all client and institutional services provided by the interacting organization. Following Marrett's (1971) definition, the intensity of a relationship was based on the number of services provided by the interacting organization.

For instance, if a manpower organization is sending its clients to agency A for diagnostic testing, counseling and job placement and its staff is also receiving assistance on program development that is a more intense relationship than one with agency B which is only providing counseling services.

This analysis indicated a strong main effect for perceived importance for 2 of the 3 measures of intensity and a consistent pattern for the third*. The main effect for number of lin kages and the interaction effect were not significant. These results indicate that the intensity of a relationship is based on the perceived importance of the interacting organizations. It is particularly interesting to note that the highest mean value for all three measures occurs in the high importance/low linkages condition. This provides support for our supposition that increased intensity is used as a strategy for controlling the environment when the focal organization is not able to interact with all the organizations it perceives as being important. This result again reinforces the utility of studying the conditions which enhance an organization's ability to establish linkages with organizations it perceives as being instrumental to its success.

Implications and Conclusions

There are several implications of these findings for agency and program administration. First of all, they point out the substantial impact of federal (or state) level program policies on the administration of local agencies. In Whetten and Aldrich (1977) we found that the best

*Institutional services $F=7.42$ $(1,47)$ $p \leq .01$; Total services (client + institutional) $f=3.86$ $(1,47)$ $p \leq .05$

predictors of organization set size and diversity were those most difficult for agency heads to manipulate. This appears to also be the case for organization set optimization since the two best predictors for INSTVALUE, budget and breadth of services, are essentially predetermined before the local administrator enters the picture. Unfortunately it is very difficult to make an unequivocal statement regarding the effect of budget size on interorganizational relations. This is due to the fact that on the one hand a large budget has been shown to lead to a diversified organization set (Whetten and Aldrich, 1976), which is perceived by the agency director as being beneficial to the organization. However, it also appears that a small budget produces a more efficient utilization of financial resources by avoiding the problem of accumulating a large number of linkages with organizations of low importance. This apparent paradox faced by program administrators bears further research before a definitive conclusion can be reached.

A second implication of these results is that the decision by program heads to mandate a relationship between certain local agencies may also prove to be a mixed blessing to these agencies. While Aldrich (1977) and Hall et al. (1974) have shown that mandating a relationship increases the frequency of interaction between the organizations, we suspect that it might also produce in an agency a perception of low power over its environment. This concern is borne out in Hall et al.'s (1974) research inasmuch as he found that the correlation between mandated relations and the power of the focal organization was .15 whereas the correlation between mandated relations and the perceived power of the interacting organization was .49. An illustration of this phenomenon appeared in Benson et al.'s

(1973) research on relations between manpower organizations. They found that a welfare agency was deliberately flooding a rehabilitation agency with referrals which would create high administrative costs and a low success rate as part of their strategy for increasing their share of the distribution of resources within the network of community organizations. It has been repeatedly demonstrated that under these conditions organizations view the relationship as a threat to their autonomy and consequently are reluctant to maintain more than a token relationship (Whetten, 1977a; Crow, 1970; Mansur et al., 1967). These results suggests that the current trend toward decentralization of manpower services which gives administrators of local agencies more latitude to adapt their program (including who they interact with) to local conditions will instill in their staff greater confidence in their ability to control their task environment.

Implications for future research and further theoretical development are also evident. First, it is evident from the rather modest R^2 in Table 1 that much of the variance in INSTVALUE remains unaccounted for. Therefore, while this research has generated some information regarding the factors which influence the establishment of environment controlling linkages we recognize that considerably more research on this topic must be conducted. Hopefully this work will stimulate more research in this area. In this regard it would seem particularly fruitful for future studies to include measures of the qualitative characteristics of the exchange processes within the organization set. Marrett (1971) has identified four key dimensions of interorganizational relations: intensity, reciprocity, formalization and standarization. While a few researchers have examined the relationships between these dimensions as

well as their effects on various outcome varibles such as cooperation and conflict (Hall, 1974; Van de Ven, 1976; Schermerhorn, 1975; and Aldrich, 1976), this area of research is still relatively untapped. In the context of the present study, it would be instructive to examine the moderating effect of standardization on the relationship between set size and INSTVALUE since a standardized relationship would require fewer resources to maintain. Presumably an organization could therefore effectively handle a larger organization set if the linkages were highly standardized.

Our results suggest that more research also need to be conducted on the effects of interorganizational relationships. We have demonstrated that under some conditions linkages appear to have dysfunctional consequences. Further research on the costs as well as the benefits of interorganizational relations would seem warranted.

Lastly, these results and those from Whetten and Aldrich (1977) suggest the need for further research on the utility of applying the resource control model to the organization set level of analysis. It appears that while the most important determinants of the composition of an organization set are difficult for administrators to control, under certain conditions the decision to establish resource-controlling linkages may follow the highly deliberate and thoughtful process implicit in the resource control theory. We feel that testing the limits of a prevailing paradigm is an important scholarly pursuit and doubly so in an emerging field like interorganizational relations where the establishment of a sound theoretical foundation is the key to our future progress.

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APPENDIX I

SECTORS OF ORGANIZATIONS IN COMMUNITY

The nine sectors of organizations in the communities which comprise the agency's environment in this study are:

1. Other manpower programs that are state or federally funded;
2. Education, training, and employment organizations, e.g., school and employment information centers;
3. Economic assistance organizations, e.g., social services departments or the F.H.A.;
4. Public safety organizations, e.g., police and fire departments;
5. Recreation and entertainment organizations, e.g., Boy's Clubs or youth camps;
6. Medical and health care organizations, e.g., hospitals and nursing homes;
7. General social service organizations, e.g., Family Services, Senior Citizens Information Service, or the Salvation Army;
8. Administration, research, and central planning organizations, e.g., the mayor's office, city planning departments; and,
9. Special interest organizations, e.g., NAACP, Mental Health Association, the Better Business Bureau, the AFL-CIO.

APPENDIX II

OPERATIONALIZATION OF ORGANIZATIONAL CHARACTERISTICS

Organization Set Size: The total number of local organizations, public and non-profit, with which a focal manpower organization interacts.

Budget: The amount of money allocated to an agency for the 1972-73 fiscal year by the state or federal government. Since the individual Employment Service offices did not have a separate budget their operating expenses were figured by multiplying their number of staff times an average salary and overhead amount supplied by the state office. This variable was logged.

Breadth of Services Offered: Staff members were asked how often they dealt with the following aspects of their clients' lives: Medical problems, Family relationship, Other social problems (e.g., related to their work or neighborhood), Economic problems, Educational needs, and experience. Psychological characteristics, Plans and dreams. Four response categories ranged from "Every time we meet with them" to "Never."

Voluntary Association Memberships: The average number of community or civic action organizations (e.g., NAACP, Settlement House Board) the staff members belong to. This variable was logged.

Previous Jobs: The average number of previous jobs the staff held in the following types of organizations: Employment Service, other manpower organizations, business organizations, public agencies, education organizations, other community service type organizations. This variable was logged.

Communications: The number of regularly scheduled meetings within an organization per month. This variable was logged.

Centralization: The staff members' average response regarding how often they participated in making the following decisions: (1) To promote any of the non-clerical staff; (2) To hire new staff members; (3) To adopt new policies; and (4) To adopt new programs. Responses were coded on a 5-point scale from "Never" to "Always".

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TABLE 1: REGRESSION FOR INSTVALUE

Dependent Variable	Size of Budget	Breadth of Services	Voluntary Assoc.	Previous Jobs	Set Size	Central-ization	Staff Meetings
INSTVALUE R^2 = .24	-.28***	.36***	-.15	.22*	-.19	.22*	.14

*p ≤ .10

**p ≤ .05

***p ≤ .01

TABLE 2: CORRELATION BETWEEN ORGANIZATION SET CHARACTERISTICS AND PERCEIVED CONTROL OVER THE ENVIRONMENT

Organization Set Characteristics	Perceived Organizational Control over Environment
Concentration of Organization Set	+.28*
Size of Organization Set	+.38*
Perceived Importance of Task Environment	-.05
Interaction Term: Large Organization Set and Low Perceived Importance	-.48**†
Interaction Term: Low Number of Linkages and High Perceived Importance	+.36**†

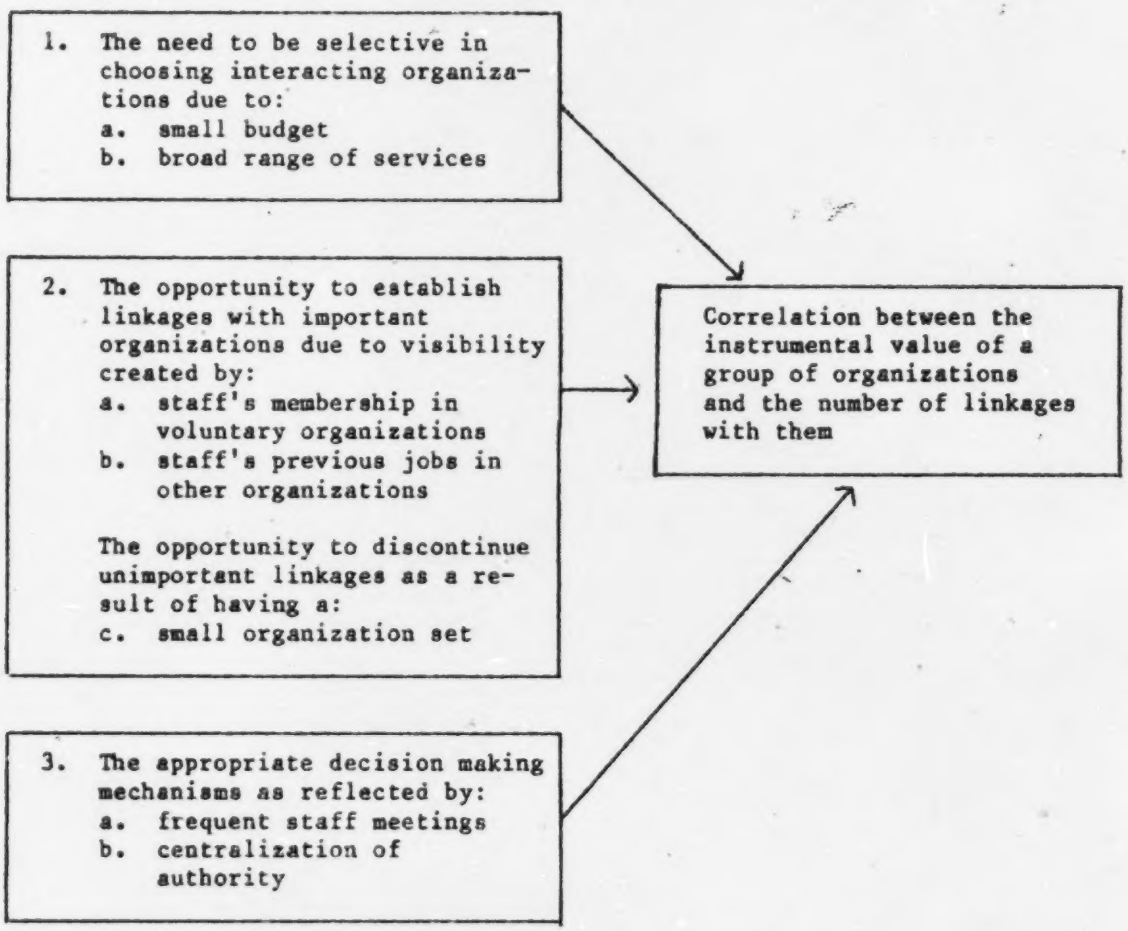
*$p \leq .05$

**$p \leq .01$

***$p \leq .001$

†Controlling for Size of Organization Set and Perceived Importance of Task Environment

FIGURE 1: HYPOTHESES REGARDING THE FACTORS WHICH INFLUENCE THE GOODNESS OF FIT BETWEEN INSTRUMENTAL VALUE AND NUMBER OF LINKAGES


1. The need to be selective in choosing interacting organizations due to:
a. small budget
b. broad range of services
2. The opportunity to establish linkages with important organizations due to visibility created by:
a. staff's membership in voluntary organizations
b. staff's previous jobs in other organizations
The opportunity to discontinue unimportant linkages as a result of having a:
c. small organization set
3. The appropriate decision making mechanisms as reflected by:
a. frequent staff meetings
b. centralization of authority
Correlation between the instrumental value of a group of organizations and the number of linkages with them